

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference P205179PCT1	FOR FURTHER ACTION	See item 4 below
International application No. PCT/NL2004/000675	International filing date (<i>day/month/year</i>) 29 September 2004 (29.09.2004)	Priority date (<i>day/month/year</i>) 29 September 2003 (29.09.2003)
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237		
Applicant HEINEKEN SUPPLY CHAIN B.V.		

1.	This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 <i>bis</i> .1(a).																								
2.	This REPORT consists of a total of 6 sheets, including this cover sheet. In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.																								
3.	<p>This report contains indications relating to the following items:</p> <table style="width: 100%;"> <tr> <td style="width: 10%; text-align: center;"><input checked="" type="checkbox"/></td> <td style="width: 40%;">Box No. I</td> <td style="width: 50%;">Basis of the report</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>	<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input checked="" type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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4.	The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).																								

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. +41 22 740 14 35	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Date of issuance of this report 03 April 2006 (03.04.2006)</td> </tr> <tr> <td style="padding: 5px;"> Authorized officer <div style="text-align: center; font-weight: bold; font-size: 1.2em;">Nora Lindner</div> </td> </tr> <tr> <td style="padding: 5px;">Telephone No. +41 22 338 89 65</td> </tr> </table>	Date of issuance of this report 03 April 2006 (03.04.2006)	Authorized officer <div style="text-align: center; font-weight: bold; font-size: 1.2em;">Nora Lindner</div>	Telephone No. +41 22 338 89 65
Date of issuance of this report 03 April 2006 (03.04.2006)				
Authorized officer <div style="text-align: center; font-weight: bold; font-size: 1.2em;">Nora Lindner</div>				
Telephone No. +41 22 338 89 65				

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

REC'D 26 JAN 2005

WIPO PCT

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/NL2004/000675

International filing date (day/month/year)
29.09.2004

Priority date (day/month/year)
29.09.2003

International Patent Classification (IPC) or both national classification and IPC
C12C5/04, A23G3/32, A23L1/03, A23L3/3544

Applicant
HEINEKEN TECHNICAL SERVICES B.V.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/NL2004/000675

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/NL2004/000675

Box No. II Priority

1. ☒ The following document has not been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. ☐ It has not been possible to consider the validity of the priority claim because a copy of the priority document was not available to the ISA at the time that the search was conducted (Rule 17.1). This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

4. Additional observations, if necessary:

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-54
	No: Claims	
Inventive step (IS)	Yes: Claims	1-54
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-54
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Reference is made to the following documents:

D1: US-A-4 389 421 (PALAMAND S R) 21 June 1983 (1983-06-21)

D2: EP-A-0 360 007 (THURN & TAXIS FUERSTL BRAUEREI) 28 March 1990 (1990-03-28)

2. The document D1 is regarded as being the closest prior art to the subject-matter of claims 1, 12, 13, 26, 39, 47 and 48. It discloses (cf. examples; claim 1) 1,8-epoxy-compounds, which are used for reducing light struck flavour in malt beverages such as beer.
- 3.1. The subject-matter of claim 1 differs from the disclosure of D1 in that a composition comprising at least 0,5% of pyrazine derivatives having a hydroxyhydrocarbyl residue (or an ester or ether thereof) and exhibiting an absorption ratio A280/560 of at least 80 is provided.
- 3.2. The subject-matter of claim 12 and 47 differs from the disclosure of D1 in that a composition comprising at least 0,5% of pyrazine derivatives having a hydroxyhydrocarbyl residue (or an ester or ether thereof) is introduced into a beverage or foodstuff to render the latter light stable.
- 3.3. The subject-matter of claim 13 and 26 differs from the disclosure of D1 in that a composition comprising at least 0,5% of N-heterocyclic compounds is introduced into a hop containing beverage to render the latter light stable.
- 3.4. The subject-matter of claim 39 differs from the disclosure of D1 in that caramel is decolourised so as to increase its A280/560 ratio by at least 100% in order to be used as additive to improve the stability of beverages or foodstuffs against light.
- 3.5. The subject-matter of claim 48 differs from the disclosure of D1 in that the beer contains a composition comprising at least 0,5% of pyrazine derivatives having a hydroxyhydrocarbyl residue (or an ester or ether thereof) and exhibiting an absorption ratio A280/560 of at least 80, in that the beer has a colour value of less

than 25, and in that the content of pyrazine derivatives exceeds 5 x the EBC colour value.

4. The problem to be solved by the present invention may be regarded as the provision of a method for rendering a beverage or foodstuff stable to light induced flavour changes, wherein an additive that is food approved and does not require labelling as foreign/synthetic compound is introduced into the food or beverage material.
5. The solution to this problem proposed in claims 1, 12, 13, 26, 39, 47 and 48 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:
The use of N-heterocyclic compounds, in particular of pyrazine derivatives having a hydroxyhydrocarbyl residue (or an ester or ether thereof), or of caramel derived material comprising such N-heterocyclic compounds, respectively, for the purpose of rendering foodstuffs or beverages resistant to light induced flavour changes by addition thereto, is not disclosed in the prior art.
Whereas D2 discloses (cf. claim 21) adding pyrazine derivatives to beer, the document does not provide any hint that pyrazines could be successfully used for stabilizing beer against light induced flavour changes.
6. Claims 2-11, 14-25, 27-38, 40-46 and 49-54 are dependent on claims 1, 12, 13, 26, 39, 47 and 48, respectively, and as such also meet the requirements of the PCT with respect to novelty and inventive step.